

USC Dornsife College of
Letters, Arts and Sciences

HBIO360 – Nutrition and Disease (4 units) Fall 2024

Lectures: Tue/Thu 3:30-4:50 pm **Location:** ZHS 252

Instructor: Gioia Polidori, PhD **Office:** AHF B40

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Telephone: 213.740.3337

Lab sections:

38542R Wednesday 6:00-7:50 pm

38543R Thursday 9:00-10:50 am

38544R Thursday 11:00-12:50 pm

38545R Friday 9:00-10:50 am

38546R Friday 11:00- 12:50pm

Instructors:

Lisa Le: lelisa@usc.edu

Charles Crawford: charles.crawford@usc.edu

Course Description

Principles of diet therapy for the prevention and treatment of human disease.

Prerequisite: BISC 220L

Learning Objectives

- Identify, locate, and describe the structure/function of major organ systems of the human body
- Illustrate the relationship between nutritional imbalances and disease
- Correlate molecular, cytological and histological changes with manifestations of selected human diseases
- Compile relevant sources of scientific evidence to solve case studies and effectively present to peers selected topics in human disease
- Evaluate how nutritional concepts may be used for the resolution of sociocultural issues

- Determine and discuss nutrient needs for diverse populations taking into account the various dimensions of human diversity such as age, disability, ethnicity, ancestry, gender, language, religion, social status and body diversity.

I. Text Required

Nutrition Therapy & Pathophysiology; Nelms M, Sucher KP, Lacey K, Roth SL (eds). Wadsworth Cengage Learning. 3rd Edition.

II. Description and Assessment of Assignments

Class material will be evaluated via quizzes, exams and case studies.

- **Quizzes** will be given during lectures and will be based on the material presented on the same day. Quiz submission: quizzes are in-class activities so will only be available during class time for students present in class. Students who have to miss class should notify the instructor to request an exemption. Submitting quizzes when not present in class will be considered an violation of academic integrity and will be reported accordingly.
- **Case studies:** Case studies will be completed throughout the semester and will focus on the pathophysiology and nutritional requirements in different diseases. Students will be guided to perform literature searches to discover and develop their own solutions to real case problems related to human disease and placed within sociocultural contexts. Students will work on case studies in groups of 3-5 and each group will submit the answers at the end of class.

III. Grading Breakdown

Assignment	Points	% of Grade
Midterm 1	250	25
Midterm 2	250	25
Final Exam	250	25
Case Studies	200	20
Quizzes	50	5
TOTAL	1000	100
JEP (Extra Credit)	25	2.5

IV. Additional Policies

- The grading scale is based on the traditional scale as follows:

	A (≥93%)	A- (≥90%)
B+ (≥87%)	B (≥83%)	B- (≥80%)
C+ (≥77%)	C (≥73%)	C- (≥70%)
D+ (≥67%)	D (≥63%)	D- (≥60%)
F		
	(≤59.9%)	

- A request to take a make-up exam must be accompanied by evidence of necessity (ie: letter from a doctor, interview email...) and must be made before the date of the scheduled exam.
- Lecture slides will be posted on Brightspace. Class notes and textbook information will form the basis of the material that will be on the exams. If you attend class regularly, you will be updated on the status of lecture notes and course material/announcements.
- Case Studies: Attendance to case studies is mandatory. Students should contact the lab instructor via email if they have to miss a case study. Case studies are completed in class with the team. If a student has to miss a case study because of medical reason, interviews, or for any other reasonable excuse, they need to reach out to the instructor ASAP. Students who arrive more than 15 minutes late on case study days will be considered absent for the case study.
- Late Work Policy: Case studies are due at the end of class period. No late work will be accepted unless the student receives prior approval from the course instructor.
- A maximum of 2 case studies can be made up. If a student has to miss a case study, they must communicate with the instructor ahead of time. In that case they can either join a different lab section (the same week) or alternatively they can complete a different case study on their own at the end of the semester.
- Quiz submission: quizzes are in-class activities so will only be available during class time for students present in class. Students who have to miss class should notify the instructor to request an exemption. Submitting quizzes when not present in class will be considered a violation of academic integrity.
- Science and the Evolving Language - As our understanding of science is constantly evolving, so are the terms used in scientific discussions. Therefore, there are terms and concepts that are in the process of being updated by the scientific community but remain outdated, and do not reflect our current values of equity or inclusivity (e.g., the word obesity or that current medical nutritional guidelines utilize a binary dichotomy of men vs women). Despite our own personal values and beliefs, such terms and concepts are part of a global science curriculum and thus will be covered in this class in order to best prepare students professionally. We acknowledge the fact that terms and concepts are in the process of being updated to better reflect our evolving understanding of science and humanity, and hope that you and your colleagues will continue to advocate for and build an equitable academic community in your classrooms and beyond.
- Lab Attendance-IMPORTANT NOTICE: As laboratory experiential learning is crucial to meeting the learning objectives of this course you must have completed a significant number of the assigned weekly lab activities before the final lecture exam. The number of assigned weekly lab activities that must be completed before the final lecture exam will be explained to you in detail by your lab instructor during the first lab meeting of the semester.

- Academic Dialogue The foundations of academic learning are rooted in our capacity to listen to each other, learn from each other, and respect each other, particularly when we disagree with each other. Academic dialogue is not about winning, but about learning together. To facilitate our building of a robust academic community in this class, we will be creating a living document of norms and expectations of engagement for respectful dialogue.
- Use of Generative Artificial Intelligence
Since creating, analytical, and critical thinking skills are part of the learning outcomes of this course, all assignments should be prepared by the student working individually or in groups. Students may not have another person or entity complete any substantive portion of the assignment. Developing strong competencies in these areas will prepare you for a competitive workplace. Therefore, using AI-generated tools is prohibited in this course, will be identified as plagiarism, and will be reported to the Office of Academic Integrity.

V. Tentative Lecture Schedule

Date	Lecture Topic	Nelms	Case Study
Aug 27	Introduction		Intro
Aug 29	Nutrition Care Process		
Sept 3	Nutrition Assessment	2	1. Dietary Assessment
Sept 5	Nutrition Intervention	3	2. Dietary intervention
Sept 10	Enteral & Parenteral Nutrition	4	
Sept 12	Energy Balance I	5	
Sept 17	Energy Balance II	5	3. Obesity
Sept 19	Pathophysiology of the Cardiovascular System I	12	
Sept 24	Pathophysiology of the Cardiovascular System II	12	4. Myocardial Infarction
Sept 26	Review	12	
Oct 1	Midterm I		5. Hypertension
Oct 3	Pathophysiology of the Upper GI tract I	15	
Oct 8	Pathophysiology of the Upper GI tract II	15	6. GERD
Oct 15	Pathophysiology of the Lower GI tract I	14	
Oct 17	Pathophysiology of the Lower GI tract II		7. Celiac Disease
Oct 22	Diabetes I		
Oct 24	Diabetes II	17	
Oct 29	Pathophysiology of the Liver & Gallbladder I		8. T1DM
Oct 31	Pathophysiology of the Liver & Gallbladder II	16	
Nov 5	Review	16	9. Pancreatitis
Nov 7	Midterm II		
Nov 12	Pathophysiology of the Hematological System I		10. Hepatitis
Nov 14	Pathophysiology of the Hematological System II	18	
Nov 19	Pathophysiology of the Musculoskeletal System I	18	11. Osteoporosis
Nov 21	Pathophysiology of the Musculoskeletal System II	19	
Nov 26	Cancer I	19	
Nov 28	Thanksgiving	22	No Lab on TG week
Dec 3	Cancer II	22	13. Cancer
Dec 5	Review	25	
	Final Exam (see schedule of classes)	25	

VI. Support Systems

A number of USC's schools provide support for students who need help with scholarly writing. Check with your advisor or program staff to find out more. Students whose primary language is not English should check with the *American Language Institute* <http://dornsife.usc.edu/ali>, which sponsors courses and workshops specifically for international graduate students. *The Office of Disability Services and Programs* http://sait.usc.edu/academicsupport/centerprograms/dsp/home_index.html provides certification for students with disabilities and helps arrange the relevant accommodations. If an officially declared emergency makes travel to campus infeasible, *USC Emergency Information* <http://emergency.usc.edu/> will provide safety and other updates, including ways in which instruction will be continued by means of brightspace, teleconferencing, and other technology.

VII. Academic Conduct

Plagiarism – presenting someone else's ideas as your own, either verbatim or recast in your own words – is a serious academic offense with serious consequences. Please familiarize yourself with the discussion of plagiarism in SCampus in Part B, Section 11, "Behavior Violating University Standards" policy.usc.edu/scampus-part-b. Other forms of academic dishonesty are equally unacceptable. See additional information in SCampus and university policies on scientific misconduct, policy.usc.edu/scientific-misconduct.

VIII. Academic Integrity Violations

Students who violate University standards of academic integrity are subject to disciplinary sanctions, including failure in the course and suspension from the University. Since dishonesty in any form harms the individual, other students and the University, academic integrity policies will be strictly enforced.

IX. Disruptive and Threatening Behavior

Discrimination, sexual assault, and harassment are not tolerated by the university. You are encouraged to report any incidents to the *Office of Equity and Diversity* <http://equity.usc.edu/> or to the *Department of Public Safety* <http://capsnet.usc.edu/department/department-public-safety/online-forms/contact-us>. This is important for the safety whole USC community. Another member of the university community – such as a friend, classmate, advisor, or faculty member – can help initiate the report, or can initiate the report on behalf of another person. *The Center for Women and Men* <http://www.usc.edu/student-affairs/cwm/> provides 24/7 confidential support, and the sexual assault resource center webpage sarc@usc.edu describes reporting options and other resources.

X. Support Systems:

Student Health Counseling Services - (213) 740-7711 – 24/7 on call

engemannshc.usc.edu/counseling

Free and confidential mental health treatment for students, including short-term psychotherapy, group counseling, stress fitness workshops, and crisis intervention.

National Suicide Prevention Lifeline - 1 (800) 273-8255 – 24/7 on call

suicidepreventionlifeline.org

Free and confidential emotional support to people in suicidal crisis or emotional distress 24 hours a day, 7 days a week.

Relationship and Sexual Violence Prevention Services (RSVP) - (213) 740-4900 – 24/7 on call

engemannshc.usc.edu/rsvp

Free and confidential therapy services, workshops, and training for situations related to gender-based harm.

Office of Equity and Diversity (OED) | Title IX - (213) 740-5086

equity.usc.edu, titleix.usc.edu

Information about how to get help or help a survivor of harassment or discrimination, rights of protected classes, reporting options, and additional resources for students, faculty, staff, visitors, and applicants. The university prohibits discrimination or harassment based on the following protected characteristics: race, color, national origin, ancestry, religion, sex, gender, gender identity, gender expression, sexual orientation, age, physical disability, medical condition, mental disability, marital status, pregnancy, veteran status, genetic information, and any other characteristic which may be specified in applicable laws and governmental regulations.

Bias Assessment Response and Support - (213) 740-2421

studentaffairs.usc.edu/bias-assessment-response-support

Avenue to report incidents of bias, hate crimes, and microaggressions for appropriate investigation and response.

The Office of Disability Services and Programs - (213) 740-0776

dsp.usc.edu

Support and accommodations for students with disabilities. Services include assistance in providing readers/notetakers/interpreters, special accommodations for test taking needs, assistance with architectural barriers, assistive technology, and support for individual needs.

USC Support and Advocacy - (213) 821-4710

studentaffairs.usc.edu/ssa

Assists students and families in resolving complex personal, financial, and academic issues adversely affecting their success as a student.

Diversity at USC - (213) 740-2101

diversity.usc.edu

Information on events, programs and training, the Provost's Diversity and Inclusion Council, Diversity Liaisons for each academic school, chronology, participation, and various resources for students.

USC Emergency - UPC: (213) 740-4321, HSC: (323) 442-1000 – 24/7 on call
dps.usc.edu, emergency.usc.edu

Emergency assistance and avenue to report a crime. Latest updates regarding safety, including ways in which instruction will be continued if an officially declared emergency makes travel to campus infeasible.

USC Department of Public Safety - UPC: (213) 740-6000, HSC: (323) 442-120 – 24/7 on call
dps.usc.edu

Non-emergency assistance or information.

XI. Brightspace is the new learning platform

USC is making a change in our online learning platform, and we are now using Brightspace.

How to Log In

To access Brightspace today, follow these steps:

1. Go to <https://brightspace.usc.edu/d2l/login> to login. You can also find Brightspace on myUSC.
2. Enter your USC Net ID to access
3. Begin navigating through Brightspace.

I also encourage you to download the mobile app, Brightspace Pulse, available in both the [Apple App Store](#) and [Google Play](#).

What to Expect

Brightspace provides an enhanced learning experience with detailed class progress reports. With Brightspace, you can easily see all assignment due dates in one place. Upon opening Brightspace, you will find the following:

- The HBIO-360 Course: We will use this course to complete work for this course throughout the semester.

Support Resources

Do you want to learn more about Brightspace? Check out training and resources in the [Brightspace Student Tutorials](#). Find technical support information below:

- Student Guides: [Brightspace Student Guides](#)
- Brightspace Technical Support Line: 888-895-2812
- Brightspace Email Support: usc@d2l.com

Description and Assessment of Assignments

[Assessment and Assignments are meant to guide and embrace your learning](#)